No. 631,434. Patented Aug. 22, 1899.

B. PHELPS.

LOCK.

(Application filed Apr. 28, 1899.)

(No Model.) 2 Sheets—Sheet 1

Fig. 1.

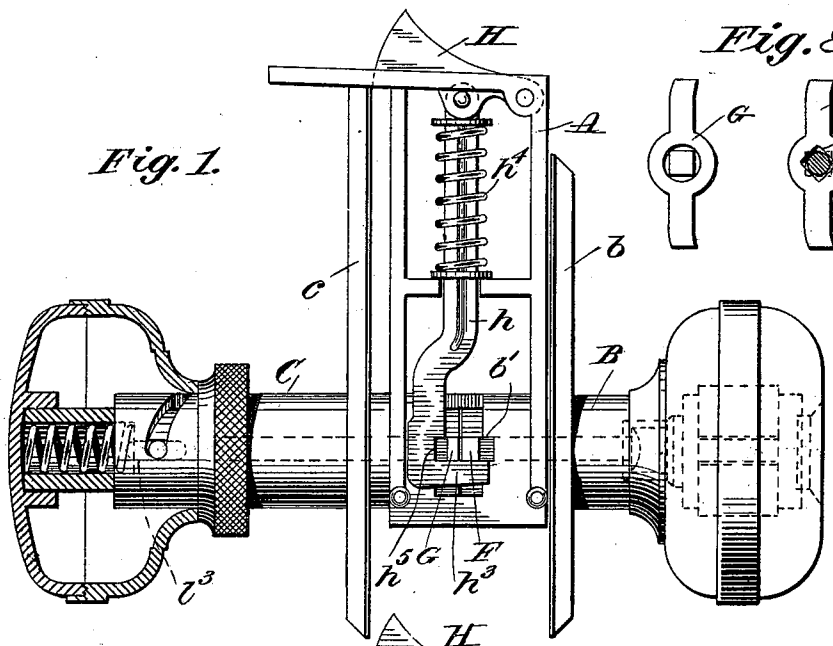
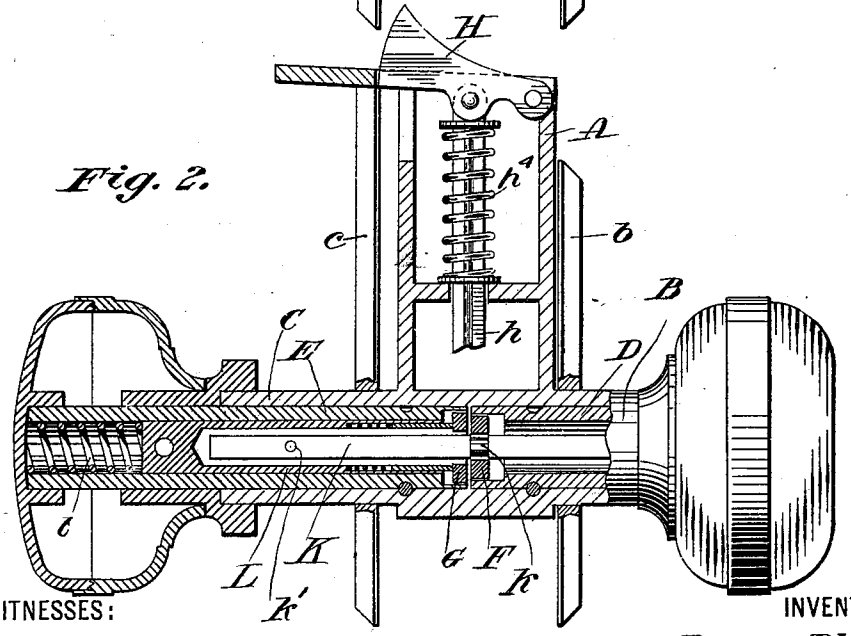


Fig. 8.

Fig. 2.



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Fig. 3.

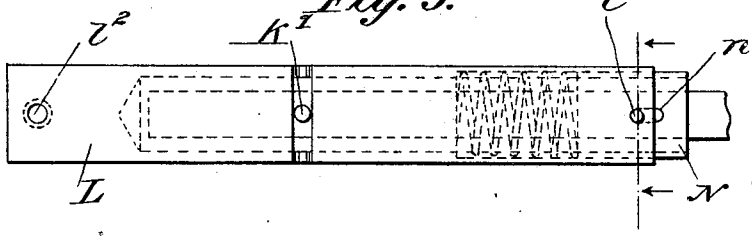


Fig. 4.

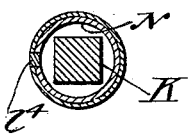


Fig. 5.

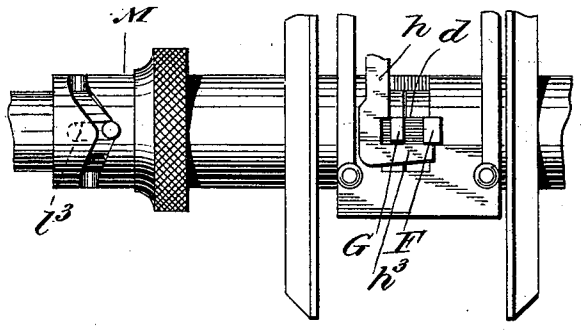


Fig. 7.

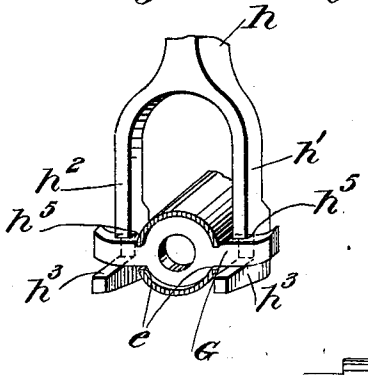
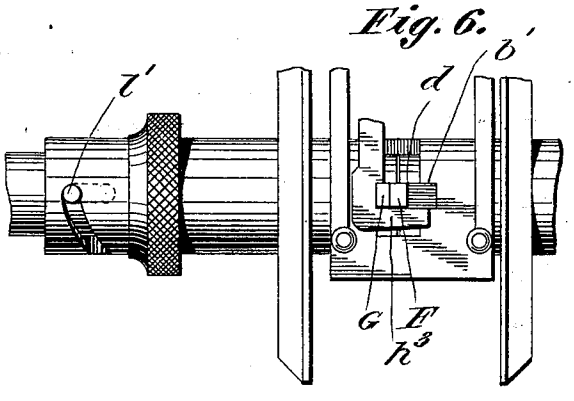


Fig. 6.



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UNITED STATES PATENT OFFICE.

BYRON PHELPS, OF SEATTLE, WASHINGTON, ASSIGNOR OF ONE-HALF TO THEODORE NELSON, OF CHICAGO, ILLINOIS.

LOCK.

SPECIFICATION forming part of Letters Patent No. 631,434, dated August 22, 1899.

Application filed April 28, 1899. Serial No. 714,831. (No model.)

To all whom it may concern:

Be it known that I, BYRON PHELPS, a citizen of the United States, residing at Seattle, county of King, State of Washington, have invented certain new and useful Improvements in Locks, of which the following is a full, clear, and exact description.

My invention relates to improvements in locks and locking latch mechanism; and my object is to improve and simplify the construction of the same.

In the preferred embodiment of my invention shown in the drawings, Figure 1 represents a plan view of my lock, parts being broken away. Fig. 2 represents a horizontal section. Figs. 3 and 4 represent enlarged details. Fig. 5 represents the position of the parts when the right-hand spindle is locked but the other is not. Fig. 6 represents the position of the parts when both spindles are locked. Fig. 7 represents a detached detail showing the manner of locking the latch-shoe, and consequently both spindles, by one of the roll-backs. Fig. 8 is a detail of the roll-backs.

In the above preferred embodiment of my invention A represents the frame of a lock, preferably having integral, hollow, transverse spindle-bearings B and C. *b* and *c* are side or escutcheon plates fitting over these spindle-bearings and relatively adjustable. This lock is adapted to be inserted in a notch in the stile of a door, and the side plates are to clasp the sides of the stile and retain the lock in place. This general construction is broadly claimed in my former application, renewed December 5, 1898, Serial No. 698,371. D and E are in this embodiment two independent and hollow rotatable spindles, held in the spindle-bearings preferably by a pin-and-groove construction, as shown in Figs. 1 and 2. The spindle D has a slot *d*, Figs. 5 and 6, and spindle E a slot *e*, Fig. 7, through both sides of the same at the inner end thereof.

Held loosely within the end of the spindle E is a roll-back G, having the wings thereof located in the slot *e*, as shown in Fig. 8. The roll-back preferably is just large enough to snugly fit within the spindle, so that it can be easily moved therein and in said slot.

F is a second roll-back held within the end of the spindle D and having its wings located in the slots *d* in the spindle in the same manner as in Fig. 7.

The central part of the roll-back G is preferably a little larger than the opening in the end of the spindle D, (see Fig. 2,) so that there will be no danger of said roll-back passing into the spindle D, and thereby becoming disconnected with spindle E.

H is a latch bolt or head, and *h* is a latch-shoe provided with a yoke, the legs h' and h^2, of which embrace both spindles, as clearly shown in Figs. 1 and 7. Each of the legs of the shoe has a lip h^3, which lips lie behind the wings of the roll-back when in their proper position and are kept in engagement therewith by the spring h^4, which presses the shoe and latch forward. It will be obvious that when in the position shown in Fig. 1 the latch may be drawn back by a rotation of either spindle in either direction.

b' is a slot in each side of the frame, into which the wings of the roll-back F fit when this roll-back is moved in the slots *d* of the spindle into the position shown in Fig. 5. When in this position, the spindle D is prevented from operating the latch mechanism, but the spindle E can still be rotated to throw back the latch. To prevent either spindle from operating the latch mechanism, I preferably lock both spindles from rotation by bringing the shoe and roll-back G into engagement, in this embodiment the roll-back being moved to the left into the position shown in Fig. 6, when the wings thereof enter the recesses h^5 h^5 in the shoe, as shown in Fig. 7, thereby locking the shoe, and consequently both spindles, from rotation in either direction. To accomplish these different locking movements, I have provided a locking mechanism which extends outside of the lock on the same side as one of the spindles, and in this embodiment I have shown it as partly inclosed within the spindle E.

K is a lock-rod, preferably angular, but having a smaller rounded portion *k*. The roll-back F has an angular opening *f*, Fig. 8, therethrough, so that the angular portion of the rod will just fit therein. The roll-back G, on the contrary, has an aperture large enough so that it can rotate independently of

the rod. The roll-back F is inserted on the rod to the position shown in Fig. 2, and the rod is then given a slight turn, which will bring it into the position shown in dotted lines in Fig. 8, the corners of the rod abutting against the sides of the roll-back, so that by the longitudinal movement of the rod in either direction the roll-back will be carried along with it. The rod will, however, move freely in a longitudinal direction without moving roll-back G. L is a sleeve longitudinally movable inside of spindle E and is pressed forward by the spring *l* inside of the left-hand knob. A pin *l'* is inserted in the hole l^2, Fig. 3, and passes through a slot l^3 (shown in dotted lines, Figs. 5 and 6) and projects therefrom into a cam-slot in a finger-piece M, rotatable outside of the spindle E. *k'*, Fig. 3, is a pin on the lock-rod K, passing through a transverse slot in the sleeve D. By the rotation of the finger-piece the sleeve L, and consequently the lock-rod K, will be moved longitudinally in one direction or the other and will carry the roll-back F along with it. It will be observed from Fig. 5 that the cam-slot in the finger-piece has a greater throw in one direction than in the other. Consequently when the finger-piece is rotated from the position shown in Fig. 1 to that shown in Fig. 5 the roll-back F will be carried into the position in which only spindle D is locked, and when further rotated into the position shown in Fig. 6 the said roll-back will be carried to the left, not only as far as the former position shown in Fig. 1, but farther to the left, pushing the roll-back G ahead of it into the recesses in the shoe, as shown in Fig. 6, thus locking both spindles. When the finger-piece is then moved in the opposite direction to the position shown in Fig. 1, the roll-back G might not move out of the recess. I have therefore provided an inner spring-pressed means to keep the same normally out of engagement with the shoe, consisting in this embodiment of an inner spring-pressed thimble N. This thimble has a slot *n*, into which a pin l^4 on the sleeve L projects to prevent disengagement of the parts. By the rotation of the finger-piece in one direction the opposite spindle alone is locked, and by a further movement of the finger-piece in the same direction both spindles are locked, preventing the retraction of the latch-bolt, and consequently preventing the door being opened either by a key or otherwise.

Some of the above features are broadly claimed in my former applications, renewed December 5, 1898, Serial No. 698,371, and Serial No. 699,891, filed December 21, 1898.

It will be obvious that many changes may be made in the construction herein disclosed without departing from the spirit of my invention.

What I claim is—

1. In a lock in combination, latch mechanism, a spindle extending thereto to operate the same, a second spindle on the opposite side of said lock, and means operative from the same side of said lock as said first spindle and adapted to prevent said second spindle from operating said latch mechanism, but not said first spindle, or to prevent either spindle operating the same.

2. In a lock in combination, latch mechanism embracing a latch bolt or head, a plurality of rotatable spindles, bolt-actuating means adapted to be operated thereby to move said bolt, mechanism to lock one of said spindles against rotation but not the other, operative from the same side of said lock as said unlocked spindle, or to lock both spindles.

3. In a lock in combination, latch mechanism, a plurality of rotatable spindles extending to said mechanism to operate the same, one of said spindles being hollow, locking means extending into said spindle and adapted to lock the other of said spindles against rotation but not said first spindle, or to lock both said spindles, and a device adapted to be operated by the fingers extending outside of said first spindle transversely of the axis thereof and connected with said locking means to operate the same.

4. In a lock in combination, a latch-bolt, a plurality of rotatable spindles, bolt-actuating means adapted to be operated thereby to move said bolt, a movable finger-piece, and mechanism controlled thereby adapted to lock one of said spindles from rotation but not the other, when said finger-piece is moved in one direction, and to lock both said spindles when said finger-piece is moved farther in the same direction.

5. In a lock in combination, latch mechanism, a rotatable spindle extending thereto on one side thereof, a second spindle on the opposite side thereof, a roll-back for each spindle, and means extending outside of said mechanism on the same side as said first spindle and adapted to move the roll-back connected with said second spindle to lock said second spindle and also adapted to further move said second roll-back and lock both said spindles.

6. In a lock in combination, latch mechanism, a rotatable spindle extending thereto on one side thereof, a second spindle on the opposite side thereof, a roll-back for each spindle, and means extending outside of said mechanism on the same side as said first spindle and adapted to move the roll-back connected with said second spindle to lock said second spindle, and also adapted to move the roll-back connected with said first spindle to lock both said spindles.

7. In a lock in combination, latch mechanism, a hollow rotatable spindle extending thereto on one side thereof, a second spindle on the opposite side thereof, a slot in the end of each spindle, a roll-back in each slot, a locking-rod within said hollow spindle engaging the roll-back connected with said second spindle to move the same longitudinally, a finger-piece outside of said first spindle

to move said rod, said rod passing loosely through said second roll-back, said second roll-back being spring-pressed toward said other roll-back and adapted to be moved backward against the force of said spring to lock both said spindles from rotation.

8. In a lock in combination a latch-shoe, a roll-back, and means to engage said roll-back with said shoe and thereby lock the same.

9. In a lock in combination a latch-shoe having a recess, a spindle having a longitudinal slot therein, a roll-back in said slot, and means to move said roll-back into said recess and thereby lock said shoe.

10. In a lock in combination a spindle, a latch-shoe having legs embracing said spindle, each of said legs having a recess therein, a roll-back having wings, and means operative from outside said lock to move said roll-back wings into said recesses and thereby lock said shoe from retraction.

Signed at New York, N. Y., this 13th day of April, 1899.

BYRON PHELPS.

Witnesses:
EMERSON R. NEWELL,
L. VREELAND.